CERP Existing (2000) and Future without Project (2050) Condition Summaries

	Existing (2000) Condition	Future Without Project (2050) Condition
Feature	**Assumptions**	
	Regional Input Data	
Climate	• The climatic period of record is from 1965 to 2000.	• The climatic period of record is the same as the existing condition.
Topography	Updated November 2001 using latest available information (in NGVD 29 datum). This update includes: • USGS High Accuracy Elevation data from helicopter surveys collected 1999-2000 for Everglades National Park and Water Conservation Area (WCA) 3 south of Alligator Alley • USGS Lidar data (May 1999) for WCA-3A north of Alligator Alley • Lindahl, Browning, Ferrari & Helstrom 1999 survey for Rotenberger Wildlife Management Area • Stormwater Treatment Area surveys from 1990s • Aerometric Corp. 1986 survey of the 8-1/2 square mile area • Includes estimate of Everglades Agricultural Area subsidence • Other data as in SFWMM v3.7 • FWCC survey 1992 for the Holey Land Wildlife Management Area. (Documented in November 2001 SFWMD memorandum from M. Hinton to K. Tarboton).	• Topography will be the same as the existing condition; no subsidence will be addressed.
Sea Level	• Sea level data from six long-term USGS stations were used to generate a historic record to use as sea level boundary conditions for the 1965 to 2000 evaluation period.	• The same sea level data as for the existing condition will be used. A sensitivity analysis will be performed utilizing a ½ foot rise in sea level so that the impacts of such a change on the performance of the water management system can be assessed.
Land Use	• All land use has been updated using most recent FLUCCS data (1995), modified in the Lower East Coast urban areas using 2000 aerial	• Lands not developed in the existing condition are assigned land use codes cross-walked from county comprehensive plans.

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	photography (2x2 scale). (Documented in June 2002 SFWMD memorandum from J. Barnes to K. Tarboton).	
Natural Area Land Cover (Vegetation)	Vegetation classes and their spatial distribution in the natural areas comes from the following data: • Walsh 1995 aerial photography in Everglades National Park • Rutchey 1995 classification in WCA-3B, WCA-3A north of Alligator Alley and the Miami Canal, WCA-2A & 2B • Richardson 1990 data for Loxahatchee National Wildlife Refuge • FLUCCS 1995 for Big Cypress National Preserve, Holey Land & Rotenberger Wildlife Management Areas & WCA-3A south of Alligator Alley and the Miami Canal. (Documented in June 2002 SFWMD memorandum from J. Barnes to K. Tarboton).	• Vegetation classes will remain the same as those in the existing condition.
Lake Okeechobee Service Area		
Lake Istokpoga	• Lake Istokpoga demands and runoff as per the Lower East Coast Regional Water Supply Plan (May 2000). • 12,000 ac-ft average annual demands, 6,000 ac-ft average annual runoff.	• Demands and runoff are the same as the existing condition.
Lake Okeechobee	• Lake Okeechobee Regulation Schedule WSE according to WSE decision trees. • Lake Okeechobee Supply Side management policy for Lake Okeechobee Service Area water restriction cutbacks (reference stage 10.5'). • Emergency flood control backpumping to Lake Okeechobee from the Everglades Agricultural Area. Criteria?	• Kissimmee River Restoration and Headwaters Revitalization Project complete. • Other assumptions as in the existing condition.

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	• Kissimmee River inflows based on interim schedule for Kissimmee Chain of Lakes. • Best Management Practices makeup water assumed to be xx % per year.	
Caloosahatchee River Basin	• Caloosahatchee River Basin irrigation demands were estimated using the AFSIRS method based on existing / permitted acreage. • Public water supply demand is included in the analysis. • Mean annual supplemental demands on the C-43 are 113,000 ac-ft.	• C-43 demands increase to xx • Mean annual supplemental demands on the C-43 are xx ac-ft.
St. Lucie Canal Basin	• St. Lucie Canal Basin demands estimated using the AFSIRS method based on existing / permitted acreage. • Basin demands include the Florida Power & Light reservoir at Indiantown. • Mean annual supplemental demands are xx ac-ft.	• St. Lucie Canal Basin demands increase by xx %. • Mean annual supplemental demands are xx ac-ft.
Seminole Brighton Reservation	• Brighton Reservation demands are the entitlement quantities as per Table 7, Agreement 41-21 (Nov 92). • Supply-side management applies to this agreement.	• There is no change from the existing condition.
Seminole Big Cypress Reservation	• Big Cypress Reservation irrigation demands reflect the Seminole Compact (3,917 ac-ft/month; Oct 98). • Supply-side management applies to the Compact.	• There is no change from the existing condition.
Everglades Agricultural Area	• Everglades Agricultural Area irrigation demands are simulated using climatic data for the 36 year period of record and a soil moisture accounting algorithm, with parameters calibrated to match historical regional supplemental deliveries from Lake Okeechobee. • Best Management Practices assumed to reduce runoff by xx % annually.	• Demands reflect construction of Stormwater Treatment Areas 3/4 and 1E.
Stormwater	• Stormwater Treatment Areas 1W, 2, 5	• All Stormwater Treatment Areas

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Treatment Areas	& 6 operational. • Operation of Stormwater Treatment Areas assumes 6" minimum depth.	operational.
Holey Land Wildlife Management Area	• Holey Land Wildlife Management Area operated at 0.0 ft. dry season and 1.5 ft. wet season.	• Operations are the same as the existing condition.
Rotenberger Wildlife Management Area	• Interim Operational Schedule (July 2001) for Rotenberger Wildlife Management Area (0.0 ft. dry season to 1.25 ft. wet season).	• Operations are the same as the existing condition.
Water Conservation Areas		
Water Conservation Area 1 (Loxahatchee National Wildlife Preserve)	• C&SF Regulation Schedule. • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if canal levels are less than minimum operating criteria of 14 ft. The bottom floor of the schedule (Zone C) is the area below 14 ft. and reads: "No net releases from WCA-1. Any water supply releases must be preceded by an equivalent volume of inflow."	• Operations are the same as the existing condition.
Water Conservation Area 2 A&B	• Current regulation schedule. • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if canal levels are less than minimum operating criteria of 10.5 ft.	• Rainfall driven operational criteria for determining timing of deliveries to and discharges from WCA-2A.
Water Conservation Area 3 A&B	• Current regulation schedule. • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if canal levels are less than minimum operating criteria of 7.5 ft.	• Rainfall driven operational criteria for determining timing of deliveries to and discharges from WCA-3A.
Lower East Coast Service Areas		
Public Water Supply and Irrigation	• Public water supply wellfield pumpages and locations are based on actual / permitted data. • Irrigation demands are based upon existing land use and calculated using AFSIRS.	• Projections will be based upon IWR methodologies (September 2002). The focus will be on changes in population / economic projections and water conservation effectiveness. • Irrigation demands are based on

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	• Miami-Dade County Water and Sewer Department West Wellfield Aquifer Storage and Recovery system (75 mgd).	projected land use and calculated in the same manner as the existing condition. • Wellfield expansion and locations based upon the Lower East Coast Regional Water Supply Plan.[1]
Seminole Hollywood Reservation	• Hollywood Reservation demands are set forth under VI.C of the Water Rights Compact.	• Demands remain the same as in the existing condition.
Natural Areas	• Flows to the Loxahatchee River at xx cfs through G-92. • Flows to Lake Worth Lagoon are simulated in the model and evaluated using performance measures. • Flows to Pond Apple Slough through S-13A are adjusted in the model to approximate measured flows at the structure. • Flows to Biscayne Bay are simulated through Snake Creek, North Bay, the Miami River, Central Bay and South Bay.	• There are no changes from the existing condition.
Canal Operations	• C&SF system and operating rules in effect in 2000 including operations to meet control elevations in the primary coastal canals for the prevention of saltwater intrusion. • Existing secondary drainage/water supply system. • Broward secondary canal recharge network based on the Lower East Coast Regional Water Supply Plan.[2]	• Selected elements of the L-8 Project from the Lower East Coast Regional Water Supply Plan.[3] • C-11 Water Quality Treatment Critical Project constructed (S-381 Ogee Gated Spillway and Pumping Station S-9A). • Western C-4 Structure (S-380) Critical Project constructed.[4] • C-4 Flood Mitigation Project includes 440 and 434 +/- acre impoundments to store stormwater from the C-4 Basin.[5] • Operational adjustments to maintain water levels in the coastal canals to meet minimum levels in the Biscayne Aquifer as proposed in the Lower East Coast Regional Water Supply Plan. • Northwest Dade Lake Belt area

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		assumes that the conditions caused by currently permitted mining exist and that the effects of any future mining are fully mitigated by industry.
Western Basins and Big Cypress National Preserve		
Western Basins	• Estimated and updated historical inflows from western basins at two locations: G-136 and G-406. The G-406 location represents potential inflow from the C-139 Basin into STA 5. Data for the period 1978 - 2000 is the same as the data used for the C-130 Basin Rule development.	• There are no changes from the existing condition.
Big Cypress	• The northern end of Big Cypress receives flows from G-136 and G-406. • Tamiami Trail is not considered a barrier to flow due to culverts. • The model simulates flows into and out of WCA 3.	• There are no changes from the existing condition.
Everglades National Park and Florida Bay		
	• TBD	• Structural and operational modifications to the federally authorized Modified Water Delivery to Everglades National Park and the C-111 Project as was modeled in Alternative 7 of the MWD project. • Structural and operational modifications in the 8.5 square mile area as per ???
Region-wide Water Management and Related Operations		
	• The existing condition reflects the existing water shortage policies as reflected in South Florida Water Management District rule 40E-21. • The impacts of declarations of water shortages on utility water use reflect assumptions contained in the Lower East Coast Regional Water Supply Plan for the 2010 base case.	• There are no changes from the existing condition.

[1] The Lower East Coast Regional Water Supply Plan provides for the relocation of future and some withdrawals from existing wellfields. These locations are for a 20-year time horizon (2020) and will remain the same for the future without project condition.

[2] The Broward County secondary canal recharge network includes: 1) S-46 recharge pump (30k gpm) that operates during the dry season when C-5 is below 11.0' NGVD, is off when C-5 is >/= 12.0' NGVD; 2) S-1 recharge pump (30k gpm) operates when C-3 is < 10.0' NGVD, is off when C-3 is >/= 11.0' NGVD; 3) S-43 step-up structure added to retain water at higher elevations, maintained at 10.0' NGVD; 4) C-4 and C-3 interconnected under the Florida Turnpike at the Sawgrass Expressway, this allows 5-10 mgd of water to move east if C-4 is > 11.0' NGVD5) C-4 completed with interconnect south under Sample Road, this allows recharge south of Sample (approx 4 mgd); and 60 can recharge west of SR 7 from -5 and east to C-1 Canal along I-95. Note: Canals are Broward County canals, not C&SF canals.

[3] This project includes a structure and pump station from C-18 to the Loxahatchee Slough (G-160), an improved conveyance from the West Palm Beach Water Catchment Area to the Loxahatchee Slough and a coastal recharge delivery system.

[4] S-380 dry season operations: at 4.2' NGVD gate is open, at 4.0' NGVD gate is stationary, at 3.8' NGVD gate is closed. The optimum stage of 4.0' will allow for seepage reduction to be extended from G-119 to S-380. Also, when supplemental water supply deliveries from WCA-3 are made to supply needs in eastern Miami-Dade County via L-30 or L-29 canals, S-380 will be opened in conjunction with G-119 and water levels may vary from the optimum. During the wet season the gate is open to maintain control of this reach with G-119. If water levels are low, this structure may be operated for water supply even during the wet season months.

[5] C-4 Mitigation Project recommended by the Miami-Dade Flood Task Force in 2001. C-4 Canal will be backpumped when T-5.5.0' NGVD.